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ABSTRACT

This document describes ways to meet professional development needs of vocational and academic teachers preparing to engage in school-to-work transition activities. Section 1 presents 13 professional development themes: involving students in workplace experiences, gaining work experience, visiting the workplace, taking coursework, participating in conferences, learning through students, learning through student organizations, obtaining materials and equipment from the workplace, reading in the teaching area, participating in school-sponsored professional development activities, interacting with workplace representatives, participating in professional organizations, and learning among and from other teachers. A table provides examples of professional development activities associated with these themes. The themes are described through statements made by educators, administrators, counselors, and business, industry, and community representatives. Section 2 discusses ways to provide school-to-work related professional development to teachers. Implications are organized so that consideration is given to teachers as learners. Suggestions for using professional development to help teachers prepare for school-to-work responsibilities are offered. They are organized around each of the four stages in the professional development framework: professional development needs, focus, delivery, and impact. Contains 10 references. The appendix study contains a summary. (YLB)

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University of California, Berkeley

MEETING TEACHERS' PROFESSIONAL DEVELOPMENT NEEDS FOR SCHOOL-TO-WORK TRANSITION: STRATEGIES FOR SUCCESS

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EXECUTIVE SUMMARY

Described in this document are various ways the professional development needs of vocational and academic teachers who are preparing to engage in school-to-work transition activities can be met. Neither a prescribed set of tasks to be followed nor specific steps to be taken are provided. Instead, details are given about various professional development activities and their impact from the perspective of school personnel and workplace representatives. During our visits to eleven exemplary school-to-work community sites in 11 different states, we rapidly recognized that teachers' professional development needs in school-to-work transition environments are much more complex than what is needed in traditional educational settings. We also observed that each of the sites visited had its own context, agendas, and policies. This meant teachers' professional development needs in different communities might vary as a function of the particular setting. Thus, professional development activities focusing on school-to-work transition are often unique to a given locale.

At these sites, we had discussions with almost 200 people including teachers of vocational and academic subjects; educational administrators and counselors; and business, industry, and community representatives. People we interviewed at these school-to-work sites supported the notion that for professional development to have a positive impact on teachers and their students, the development process must be both comprehensive and long term. This process requires that a major investment be made in professional development that prepares *both* vocational and academic teachers for their involvement in school-to-work transition.

An additional focus is on the many professional development practices that can assist teachers in their professional development. Most of these practices are described in the words of teachers who participated in them or others who were aware of teachers engaged in different professional development practices. To aid in identifying promising professional development practices, they have been organized into the following 13 themes:

1. Involving Students in Workplace Experiences
2. Gaining Work Experience
3. Visiting the Workplace

4. Taking Coursework
5. Participating in Conferences
6. Learning Through Students
7. Learning Through Student Organizations
8. Obtaining Materials and Equipment from the Workplace
9. Reading in the Teaching Area
10. Participating in School-Sponsored Professional Development Activities
    - Professional Development Activities in the Schools
    - Professional Development Activities in the Workplace
11. Interacting with Workplace Representatives
12. Participating in Professional Organizations
13. Learning Among and from Other Teachers

Information about the practices was organized into themes based upon analyses of text transcribed from our interviews with various individuals at the participating sites.

The publication is organized into two main sections. In the first section, each of the 13 professional development themes is presented. Individually, the themes are described through statements made by educators; educational administrators and counselors; and business, industry, and community representatives. Their statements support the multidimensional profile of each theme. Collectively, the themes reflect the comprehensive nature of professional development for school-to-work transition. When taken as a whole, the themes present a convincing case for creating professional development programs for teachers of vocational and academic subjects in the long term rather than on a piecemeal basis.

In the second section, ways to provide school-to-work related professional development to teachers are discussed. Implications are organized so that consideration is

given to teachers as learners. First, teachers can learn by informal means, formal means, or a combination of the two. Second, teacher learning can occur in different contexts, the most common of which are the school, the workplace, the community, and a combination of these. And finally, teachers may be encouraged to develop professionally through the use of intrinsic and extrinsic motivators. Merging the consideration of teachers as learners with a professional development framework resulted in the creation of a useful organizing scheme to employ when considering which teacher professional development approaches to use and when to use them. Several suggestions for using professional development to help teachers prepare for school-to-work responsibilities are then offered. The suggestions are organized around each of the four stages included in a professional development framework: (1) professional development needs, (2) focus, (3) delivery, and (4) impact.

OVERVIEW

A Frame of Reference

This document draws from and builds upon the rich heritage of professional development, but more specifically on recent conceptions of professional development in an era of educational reform. Professional development (sometimes termed personnel development, staff development, and inservice education) has traditionally been the responsibility of colleges and universities. These institutions have tended to focus a great deal on preservice teacher education as well as teacher inservice education. However, numerous changes in the ways public schools operate as well as what is taught and how it is taught have had a profound effect on educators and the ways they develop on the job (Little, 1993). For example, the implementation of Tech Prep, vocational and academic education integration, school-to-work transition, and other large scale educational reforms have shown that teachers must be prepared to work at diverse tasks, including functioning as members of interdisciplinary and school/community/workplace teams and engaging in collaborative curriculum development and teaching (Finch, Schmidt, & Faulkner, 1992; Hartley, Mantle-Bromley, & Cobb, 1996). Organizational reform such as school-based management has provided teachers with opportunities to become involved in the total school enterprise and participate in decisions that affect its future direction. These and other changes in the educational landscape have contributed to a shift from university-based professional development to school district-based and school-based professional development. Of course, universities continue to provide teachers with professional development experiences. In fact, large numbers of teachers continue to enroll in university graduate programs across the nation. However, in many schools and school districts it is felt that teachers need more than graduate education, and the reason for this feeling is based on major changes that are occurring in the schools. As Lieberman (1995) notes, "Today's approach to professional development goes far beyond the technical tinkering that has often characterized inservice training. The process of restructuring schools places demands on the whole organization that make it imperative that individuals define their work in relation to the way the entire school works" (p. 592). It is this kind of professional development that some schools and school districts feel they can provide more effectively than if they were to contract services from universities.

Professional development has thus evolved from an often dreaded "inservice" activity that was perceived as something to suffer through to a comprehensive set of career-long experiences that are tailored to assist educators in being successful in their individual and collective evolving professional roles. Taking a rather generic view, Finch (1990) noted that professional development was in the process of evolving into a more comprehensive set of phases that include needs, focus, delivery, and impact. Needs are "derived from the contexts within which professional development will take place and the types of potential professional development recipients" (p. 6). Focus is driven by needs and context as well as content to be delivered and potential benefit to recipients. How professional development is delivered thus becomes a function of needs, focus, context, potential delivery modes, and potential delivery settings. And finally, assessing professional development's impact is a function of context, needs, focus, and delivery.

More recently, Finch et al. (1992) presented a vision of an evolving professional development paradigm. Within this paradigm, consideration is given to teachers' new professional roles in the schools as well as how professional development needs that are generated by these new roles should be met. Professional development assumes a new character that includes greater emphasis on the following:

- school-based development instead of university-based programs
- teachers teaching teachers
- teacher team development as contrasted with individual development
- continuous rather than intermittent professional development activities
- informal opportunities for professional development
- teacher self-governance and decisionmaking in meeting professional development needs (p. 5)

Support for this paradigm, upon which this document is based, may be found in several sources, including Lieberman's (1995) essay on transforming conceptions of teacher development; Darling-Hammond and McLaughlin's (1995) discussion of policies that contribute to professional development in the context of comprehensive educational reform; Schmidt, Finch, & Faulkner's (1992) study of teachers' roles in the integration of

vocational and academic education; Little's (1993) comprehensive essay on professional development in a climate of educational reform; Sparks' (1994) discussion that documents reasons for a paradigm shift in staff development; and Bull & Buechler's (1995, March) in-depth study of professional development in Indiana. As this publication was developed, we also gave consideration to teachers' needs and the contexts within which these needs were generated, the focus of professional development, the various ways that professional development was delivered, and its impact.

Focus

In this publication, ways that the professional development needs of vocational and academic teachers who intend to or are now engaged in school-to-work transition activities are described. The guide does not provide a prescribed set of tasks to be followed or specific steps to be taken. Instead, it provides details of various professional development activities and their impact from the perspectives of school personnel and workforce representatives. During our visits to exemplary school-to-work community sites in eleven different states, we rapidly recognized that teachers' professional development needs in the school-to-work transition environment are much more complex than what they would be in traditional educational settings. We also observed that each of the sites visited had its own context, philosophy, agenda, and policies. This meant teachers' professional development needs in different communities might vary as a function of the particular community setting. Professional development activities focusing on school-to-work transition are often unique to a given community.

Our discussions with almost 200 people at these sites included teachers of vocational and academic subjects; educational administrators and counselors; and business, industry, and community representatives. People we interviewed at these school-to-work sites supported the notion that for professional development to have a positive impact on teachers as well as their students, the professional development process must be both comprehensive and long term. This process requires a major investment of resources to prepare teachers for their involvement in school-to-work transition.

A second focus of this guide is on the many professional development practices that can be used to assist teachers of both vocational and academic subjects in their professional

development. Most of these practices are provided in the words of teachers who participated in them or others who were aware of teachers who were engaged in different professional development practices. To make the process of reviewing and selecting professional development practices easier, they are organized into 13 different themes. These themes were based upon analyses of text transcribed from our interviews with people at the participating sites. Details about the study and how the themes were created are included in a companion document titled *Facilitating School-to-Work Transition: Teacher Involvement and Contributions* (Schmidt, Finch, & Moore, forthcoming). A study summary is included as Appendix A.

Organization

The guide is organized into two main sections. In the first section, each of the 13 professional development themes is presented. Individually, the themes are described through statements made by educators; educational administrators and counselors; and business, industry, and community representatives. Their comments serve to support the multidimensional profile of each theme. Collectively, themes reflect the broad, comprehensive nature of professional development for school-to-work transition. When taken as a whole, the themes present a convincing case for creating comprehensive professional development programs in the long term rather than on a piecemeal basis.

In the second section, ways that school-to-work related professional development may be provided to teachers are discussed. Implications are organized so that consideration is given to teachers as learners. First, teachers can learn by informal means, formal means, or a combination of the two. Second, teacher learning can occur in different contexts, the most common of which are the school, the workplace, the community, and a combination of these. And finally, teachers may be encouraged to develop professionally through the use of intrinsic and extrinsic motivators. Merging the consideration of teachers as learners with a professional development framework resulted in the creation of a useful organizing scheme to employ when considering which teacher professional development approaches to use and when to use them. Several suggestions for using professional development to help teachers prepare for school-to-work responsibilities are then offered. The suggestions are organized around each of the four stages included in the professional development framework: professional development needs, focus, delivery, and impact.

PROFESSIONAL DEVELOPMENT THEMES

The people we interviewed were asked to describe professional development activities in which teachers participated that helped them conduct successful school-to-work transition. Examination of their responses resulted in the development of the following 13 themes focusing on professional development experiences:

1. Involving Students in Workplace Experiences
2. Gaining Work Experience
3. Visiting the Workplace
4. Taking Coursework
5. Participating in Conferences
6. Learning Through Students
7. Learning Through Student Organizations
8. Obtaining Materials and Equipment from the Workplace
9. Reading in the Teaching Area
10. Participating in School-Sponsored Professional Development Activities
    - Professional Development Activities in the Schools
    - Professional Development Activities in the Workplace
11. Interacting with Workplace Representatives
12. Participating in Professional Organizations
13. Learning Among and from Other Teachers

Table 1 provides examples of professional development activities associated with these themes. Selected responses made by interviewees are include below to assist in describing the nature of each individual theme.

Involving Students in Workplace Experiences

Interviewees at each site indicated that involving students in workplace experiences was a vital link for student success in the school-to-work transition process. Interestingly enough, involving students in workplace experiences also emerged as a theme for teachers' professional development. Interviewees indicated that teachers become actively involved with business, industry, and the community as they assist students in participating in a variety of on-the-job experiences. One administrator noted that expectations of teachers has changed over the last twenty years. He commented,

> . . . [teachers] are expected to know who their business community members are. They are expected to be involved in placing the students in internships and permanent jobs.

At another site an administrator stated, "I've asked my trade teachers to really change what they do in terms of delivering their curriculum, to move out of their shops, if you will, and into the community."

As a result of his contacts in the business community, a welding teacher at one rural site invited a panel of business owners to participate in a career night for his students. The following response from the school-to-work coordinator describes this meeting of local employers with students as follows:

> [The meeting] also gave the teachers an opportunity to listen to what questions their students were asking. What was presented by this panel helped [the welding teacher] when he came back to school so that he was better able to, . . . if one of the students expressed an interest in a particular type of welding, gear his program a little bit more for that student. He knew the student's interest level and knew there might be a potential job out there for the student. This way Mike could better instruct so that students could be successful.

The principal at this site was very excited about this method of getting students involved with local businesspeople. He described why the welding teacher initiated the meeting and the impact this meeting had on the students.

Table 1
Professional Development Activities

Theme	Examples of Activities
Involving Students in Workplace Experiences	Plant tours; taking students to professional conferences
Gaining Work Experience	Back-to-industry; job shadowing; summer jobs
Visiting the Workplace	Learning what industries and businesses do
Taking Coursework	Ongoing continuing education; technical updating
Participating in Conferences	Summer conferences; workshops
Learning Through Students	Learning from students' knowledge of local business and industry
Learning Through Student Organizations	Meeting individuals from other schools at student organization conferences and learning what they are doing
Obtaining Materials and Equipment from the Workplace	Obtaining equipment, newspapers, and journals from local companies for classroom use
Reading in the Teaching Area	Reading literature and trade journals to stay current in teaching area and learn of latest technological developments
Participating in School-Sponsored Professional Development Activities	School-based and work-based staff development opportunities provided by the local school system
Interacting with Workplace Representatives	Brainstorming with workplace representatives; advisory committees
Participating in Professional Organizations	Interaction with other professionals; gain information
Learning Among and from Other Teachers	Sharing ideas; providing motivation; veteran teachers serving as mentors for new teachers

> He wanted to be able to expose his students to the various types of welding. Instead of just talking about it in the classroom, he wanted them to be able to talk to and listen to a panel of professionals so that the students would get an idea of what is really out there. Students can talk with these business persons one-on-one and have their questions answered in a setting where they feel free to open up.

From rural to urban to metropolitan areas, teachers at each site exhibited a great deal of creativity in the ways they involved their students in workplace activities and with workplace representatives. Teachers interacted with manufacturing, retail, service, and community agencies to assure their students were involved in worthwhile work experiences. Teachers at each site indicated that working with the business community to involve students in workplace activities has proven to be a professional development activity that keeps them abreast of local business practices and aware of what employers require of employees.

Gaining Work Experience

The first theme discussed teachers involving students in workplace activities; however, many interviewees felt that it was equally important for teachers to gain personal work experience outside the school. Interviewees from business, industry, the community, and the schools felt that teachers needed to have firsthand work experience in order to fully understand current technological advances and to be aware of what is happening in the business community. Professional development activities that allow school personnel to have the opportunity to gain work experience in local industries have been implemented at several school sites. Typically, these activities range from one to three weeks, with participants allowed to choose an industry of particular interest to their field. Interviewees at each site were enthusiastic about experiences the teachers had through these Back-to-Industry programs.

A science teacher was especially positive about the Back-to-Industry program implemented at her school. She noted that she participated in the program because she felt it would be a "learning experience" for her to find out about local industries and how they function. She found the workplace was quite different from what she had envisioned. She commented,

> I became interested because I wanted to know more about what goes on here—what kind of workplace my students would be looking at when they graduated. It was a valuable learning experience for me. I was quite amazed at the amount of communication, for example, that even the line workers need and are required to have. And the number of things that they have to read and process in their daily work. You know, I assumed that when you go to work on the line you do exactly the same thing every single day. They [the workers] do whatever is needed. They have to be able to read the chemical [information] and a lot of the material they read is at a much higher level than I felt would have been expected. The other thing that impressed me was the people who had been in that company from the time they began working because they were treated so well. And by that, I don't necessarily mean those extrinsic kinds of benefits, the pay, insurance, etc., or buying into stock; but they were treated with dignity and respect and their opinions are valued and that surprised me. I was surprised and impressed at the vast diversity of the plant itself. . . . Well, I think the Back-to-Industry program was a wonderful experience and I hope every teacher in our school gets to participate in that, just so each teacher can see what our people in this county are having to do.

Many teachers reported that their experiences in the workplace had changed the way they taught in their classrooms. Many noted that they had incorporated skills needed in the workplace into their curriculum, such as decisionmaking activities, communication skills (both verbal and written), and presentation skills. As a result of her workplace experience, an English teacher reported that she had become more of a "facilitator" in the classroom. She noted at the industrial site she visited that workers were involved in the decisionmaking process for their particular job as well as being responsible for giving presentations about the work they were involved in. Bringing this concept back to her English class, she stated that she rarely teaches a novel anymore that all the students are reading at the same time. Rather, students are given choices in the books they read and are responsible for leading discussions and presentations about the literature they have read. She noted,

> [Students] have to make decisions about things that they are planning to do. For example, instead of me lecturing to them about an opening section of literature, I give them the information and have them choose groups and decide how the information should be presented. The kids are very reluctant to do that but the more they do, the more comfortable they become with it and the more elaborate their presentations. It's been very rewarding. It's been very good for them. Sometimes we [teachers] think that we are supposed to be the one who's up there doing nothing but teaching and I have found that learning comes from within and no matter how much teaching I do that I have to become more of a facilitator.

A school-to-work coordinator discussed the significance the Back-to-Industry program has had on teachers, students, and their school as a whole. She noted,

> . . . I think one of the things that the Back-to-Industry program has done is that it has given teachers an awareness of what employers are looking for, and they are bringing that information back to their classrooms and incorporating it into their lessons . . . and that's advantageous . . . It's not just vocational students, it's all our students who are benefiting because the teachers that are involved in [the] Back-to-Industry [program] represent all different disciplines.

A science teacher at one site spoke of her experiences in a one-week internship program sponsored by her school:

> Very enlightening! They just performed their regular duties while I was there and I got to go along and watch, and it was interesting for me to see all the math they used day to day and the communication skills that are so vital. It really did help me focus on how much I need to do to help prepare these kids for work. I came back from that experience with knowledge of skills that people use out in the real world.

As a result of this experience, this teacher stated,

> In the classroom, I do a lot of cooperative grouping and having the kids to work together because these are real basic skills that people out in the workplace have . . . you have to be able to get along. I was doing cooperative grouping before, but I didn't realize how important it is and how the kids need to be doing it everyday, working with people everyday, and learning that they don't always get their way—that it's a melding of ideas that usually comes up with the best result. That school-to-work internship really brought that home to me, that there is a lot of working together, communicating, and being effective communicators. Because the better communicator you are the better you are going to be able to do your job and help other people to do their job.
>
> I do a lot more experiments now, hands-on stuff, because the kids can't realize what goes on in the workplace just by getting information out of a book. I also teach them to be more resourceful, to seek out more on their own instead of me being the main giver of information because that is one thing they are going to have to do . . . they are going to have to be their own resource (know where to look and where to find things) and I have turned them loose to be their own boss. In a way, they have to regulate themselves to get the job done.

At another site, a science teacher gained summer work experience through the National Science Foundation. Forty middle and high school science teachers participated in the program and each teacher was assigned to a different work site. When discussing how this activity contributed to student school-to-work success, the teacher stated,

> It made me more aware of what kinds of skills students need in the business community and outside school—what kind of skills employers are looking

> for. They're looking for good communication skills: students need to be able to use computers, they need to be able to follow directions, and listen and write things down. All those kinds of skills we try to teach our students, but I think now I have a better basis where I can say I saw this when we were out there. As far as lab techniques, making sure that students use scientific methods, that they are accurate in their measurements and those kinds of things. This really kind of emphasized to me that yes, those things that we're doing in school are important because they do relate to how things are done in the real world.

In addition to summer programs where teachers are involved in workplace experiences, a business person at one site discussed a partnership that had been developed between the school and local businesses where teachers spent approximately three hours a week for six weeks in the business community learning about local businesses and actually being involved in a work experience:

> . . . In that amount of time, you get beyond talking about what the job is like to getting down to having to work. And I think that's when you begin to see a change in the teacher. When she really has to use some of her skills in that setting. I think the major impact really was just the different mindset. I think that so often teachers are trained to be teachers and learning what is in the textbook becomes the real focus. And all of a sudden they begin to say, "Oh, you know, it's not that I'm just preparing this person for the next level and the next level, but I'm preparing this person for a real-life experience." It's just a different mindset. And I think that that has been our focus for so long because so few teachers have really ever been in the workplace.

These teacher workplace experiences provide valuable links with the business community that continue long after the work experience is completed. To emphasize this, a school-to-work coordinator made the following comment:

> School-to-work internships also enlarge the teachers' scope of reference, so they know of resources to tap when they need assistance from outside the school. The community is readily available to help and I think they [teachers] need to know how to tap in and this gives them that link.

A number of interviewees responded that teachers could not successfully implement school-to-work programs if they had no experience in the workplace. In discussing the importance of gaining work experience, an auto mechanics teacher said,

> How can a person deal with school-to-work and students, providing them that experience, if they've never been there before themselves? We have a lot of teachers that go from kindergarten to twelfth grade to four years of college and go into teaching and haven't had the opportunity to get this

> experience that they need to relate to their students that are not going to a four-year college track. I think the high-schoolers are looking at going to a lot of the things we're doing now like applied courses and school-to-work activities.

To further emphasize the importance of gaining work experience, a health occupations teacher at one site worked as a registered nurse during the summer as well as at least one shift a month at the local hospital in order to maintain her nursing skills. She felt this work experience was vital to her personal success as well as the success of the health occupations program. She noted,

> Healthcare and medical care change so fast. The hospital changes and is constantly being updated or improved upon. If I don't work, I'm really lost, and I want to be able to provide my students with the most up-to-date, current information about healthcare and where it's going. My work as an RN puts me in touch with businesspeople, number one professionals and leaders not only in the hospital but at the state college. [By working], I stay in touch and maintain my own skills so that I know what I'm talking about when I teach my students.

Visiting the Workplace

In addition to gaining work experience, interviewees also expressed the importance of teachers maintaining contact with local businesses throughout the school year by visiting the workplace. Educators contended that visiting the workplace on a regular basis keeps them abreast of current trends and changes. They also emphasized that visiting the workplace provided them with knowledge needed to help students in the school-to-work transition process. A math teacher noted that visiting the workplace increased cooperation and understanding between school personnel and local businesspeople:

> Just knowing what the plants in our county do . . . I'd never been in these plants and I didn't know what they actually did and what they contribute to the county tax base—the tax dollars they give us, the jobs they give our people . . . I know a few teachers here that are taking groups of students on plant tours to see what these plants do and that's opened up opportunities for us. We're more involved with our plants now and they're more willing for us to come because they know that we're getting their workers ready for them.

An administrator, likewise, described the positive impact visiting the workplace had on teachers as follows:

> It is a very positive experience for teachers. They all learn something that they can bring back and implement into their classrooms in one way or another. I've had teachers develop curriculum based on what they see going on in the workplace. And it gives teachers some credibility with students. I think it's a real key issue, letting the instructors see just what it's like in the workplace. Many teachers don't have any comprehension for the kind of things students will encounter in the workplace because our school environment is so different than a workplace environment. If we're going to prepare students to go into that workplace environment, we have to know what's there and this is one way to find out what's there.

A school-to-work coordinator shared with us how visiting the workplace has changed the teaching style of one English teacher:

> I can give you an example of one of our teachers, a very good teacher, but she preferred to teach to the top 20% [of her students]. Most of her classroom activities were designed to help that top 20% get into a state university. She was in the pilot group that went out [to visit the workplace]. She's an English teacher, and it was just such an eye-opener to her that she was not teaching to 80% of her students. These 80% were going to be tax-paying citizens and she as a teacher was doing nothing to help them to get along in life, to help them prepare for the workplace. She loves to teach Shakespeare and she still teaches Shakespeare, but she teaches it to involve problem-solving skills and vertical thinking skills. She's also teaching Shakespeare now for maybe four weeks instead of six weeks. She has always taught term papers because she wants to get the students prepared for university, but now she's also teaching technical writing skills, memos, and job applications. It's just unreal how she's changed the classroom. She still teaches most of the things that she loves but it has been more her delivery and how she relates activities to the workplace that's changed.

A school-to-work coordinator cited a number of benefits derived from teachers visiting the workplace:

> . . . For instance, our welding instructor, who works with our manufacturing apprentices, has been able to build relationships with these businesses where he has gone out. They call him first for hiring and often share technical information. We even have businesses that our teachers are working with that when they have technical workshops for their own employees, some of them will call and invite our staff to come out and be involved. This year our manufacturing instructor had an opportunity to go out to one of our business partners and participate in a two-day workshop that was costing the business partner $1,100 per person. It just so happens they had paid for slots and had some left over and called and enrolled us for cost free. So that's a real good benefit to us to be getting this technical training and it's not costing anything and it's state of the art and we're getting it when the businesses are getting it. And they know we are going to take this training back to the kids and the kids that come out of our classrooms are going to be future employees, so it's a really good sharing.

A guidance counselor at one site spoke of the motivation teachers received from visiting the workplace and communicating with the businesses:

> [Teachers] get to see what that physical setting is like. They have a debriefing at the end to ask questions about their specific discipline area and how they would relate it to what they've seen and find out what they need to stress more. They come back and they incorporate those needs and skills into their curriculum and daily lesson plans and in student activities. It's very motivational. You cannot allow anyone to become stagnant, you've got to get them out of the classroom and they come back and they're so excited about what is happening.

A business teacher said that her department felt it was important for teachers to get out and make contacts with the business community in order to bring firsthand information to students:

> We're given inservice time two Fridays a month, and our department feels like it's important to see local industries, talk to people in business to see how they feel about the students they are hiring. Are they prepared? Do they have a good work ethic? It's a chance to get feedback from businesspeople about the quality of workers they're getting. It's just interesting to hear more about that company and to talk to students about how companies are managed and you see different management styles. The tours are so positive, they sort of inject you with some enthusiasm about seeing different qualities in business. We come back and tell the students the real scoop about different companies.

A community representative spoke about a partnership that existed between business education and the chamber of commerce. The community representative noted that "we have had a number of teacher visits on inservice days." At another site, a government teacher said he had spent the day at an attorney's office and walked through what was done there. He felt this experience made him better informed on what he's talking to the students about and he especially liked the "one-on-one contact with the business world."

Educators were not the only ones who felt that visiting the workplace was essential for teachers if they were to implement successful school-to-work programs. Representatives from business also emphasized the importance of teachers visiting the workplace. A business representative who discussed the importance of educators visiting the workplace in order to learn about the career opportunities available for students stated,

> About 45 teachers came and they spent maybe about five hours with us, toured, and we had lunch with them. We sat down and each department talked about the jobs they do and what career opportunities are there and

> what things we felt were needed to be taught to students today and what skills were lacking. There was a good interchange there.

A business owner who felt it was important for teachers to visit the workplace to learn about the latest technological developments said,

> The teachers have an opportunity to come themselves into our establishments, like their students do, perhaps on a more in-depth level to observe newer techniques that we are practicing in the marketplace they may not have reached at the school level. Technology is changing so quickly that you really have to go to the marketplace to understand the impact of technology. If you went to school a few years ago, there are things that have happened since then that we're using now that you might not have been exposed to. So the resource task force to the teaching staff are there to provide them that kind of back-up and support and serve as a resource base to them.

An administrator at one site summed up the visiting the workplace category very nicely. He noted that teachers viewed the tours of businesses as an "enjoyable experience" and they "appreciated the opportunity to go out into the 'real world.'" He further stated that on these tours the educators felt they were "treated as professionals." He felt that the tours had a very positive impact on teachers who participated and on what they do in their classrooms on a daily basis and how they relate to students and to school-to-work efforts.

Taking Coursework

Interviewees frequently mentioned taking coursework for educational and technical updating as a professional development activity that helped them to implement successful school-to-work activities. The two responses that follow are from a drafting teacher and a business teacher who take courses at their local community colleges to remain current in their respective fields:

> . . . at different community colleges, if I know they have something pertaining to my field, I search the course of studies and if there is a course relating to drafting that I need to take then I do it.

> . . . the software changes so frequently and we don't change that frequently at schools. So often, I have to do an update myself because the colleges have new releases and we pretty much stick with what we have now. I work with the kids and try to share information and let them know what [software] the industries have at this point and how if they were to go to

> work in a particular industry, how different terminology and so forth, would transfer to what we have.

Another business teacher said that she was a "lifelong learner." She felt she had to constantly update her computer skills so she takes classes at the community college all year long.

A business representative at one site spoke about a school-to-work program called "train-the-trainer" that has been implemented in the district:

> In our school-to-work program, we have what we call "train the trainer," which is a pretty intense two-week process in the summer that tries to bring instructors up [to speed] on the curriculum prior to the use of it in the fall. This is the way we interface our system with the school system.

Auto mechanics instructors at several sites commented about the importance of taking coursework as part of their professional development activities. The following two comments are from auto mechanics instructors who talked about taking classes to learn the latest technical information as well as new teaching methods and to learn what employers are expecting from employees:

> I have been able to go to some service training for mechanics and talk to instructors about their teaching methods for teaching technical information. I would say the service training has helped from the technological aspect. These have been valuable for incorporating into my classroom. I've also taken classes in classroom management and have incorporated a lot of discipline strategies.

> The inservices and training at the manufacturers keeps me on top of what industry is expecting of upcoming employees. In a year period, I probably spend two to three weeks in different types of workshops. We have a partnership involvement with Ford, GM, and Chrysler where they work out a schedule with us so we actually go in and sit in with technicians in their training classes. We're then able to make the modifications and changes that we need to make in our programs to meet the needs of what industry is expecting.

An administrator at one site also observed that it was very important for the automotive instructors to continuously upgrade their skills to stay up-to-date with the changing technologies in their field:

> The automotive body technical teachers were going to one of the car companies to train on the average of [once] every six weeks. But you know these companies are like everybody else and started cutting back, even on

> their own personnel. So I would say now the teachers go about twice a year. One of the reasons why we felt we had to meet with the automotive personnel around the table was that our teachers needed to be there just like their employees were because the technology of cars was changing so rapidly. By the time they would donate us something to work on, it was almost obsolete. Then our teachers were almost obsolete. So whenever they had a training session, they invited us into the training session. Generally we sent all of our automotive people at one time, and they get hands-on kinds of training, working with the updated equipment. They can see the latest as to what's there and believe me those auto companies have the best there is out there to teach with. They donate us cars to work on. So that's another reason why we need to know what we are teaching. I mean it's no good to get the car if we don't know how to use it.

When this administrator was asked how this particular professional development activity contributes to student success, he noted that the instructor is not only learning about the latest technology, but also has "an opportunity to network with the instructors in these automotive companies and with the personnel in charge of hiring." He continued, "this benefits the cooperative program as they [these companies] are in the positions to place kids and they are also in the position to be able to donate equipment for students to work on."

An auto mechanics instructor at a technical college discussed training sessions provided by dealers with whom they had partnerships:

> The update training schools are really valuable because we are in those classes as instructors right with dealer technicians. In a lot of cases the people who are teaching the classes are our past students that get their training from Detroit and come to these classes. They've got dealer technicians and we're setting with the dealer technicians in the class so we learn the new products. We're learning from teachers along with technicians and that makes a real strong school-to-work tie. And we do that continually every month. In fact, we're the training site here for GM, Ford, Chrysler, and Nissan. They come here. They use our rooms and our shops; they don't pay any rent. In exchange for that, we get to sit in on their classes and we get new vehicles for loan and we get training aids, models. That goes on all over the country. That's kind of a unique situation because we don't have to travel to training—they come here.

A drafting teacher at one site was enthusiastic about a two-week intensive course provided by a joint effort of the local community college, the vocational advisory group, and the local school district that he had participated in to upgrade his skills:

> The community college, the vocational advisory group, and the local school district combined to put on a two-week workshop during the summer. We sat down together and upgraded our drafting skills. We talked about our

> programs, we created lesson plans, we created skills sheets, we created the whole program, and I went out of there feeling like a new man and feeling like people cared about education and the kids benefited from that. To me, that was the number one professional upgrading.

In addition to educators taking coursework to upgrade skills and learn about the latest technological advances, teachers also participated in classes offered in their school districts addressing current issues, including diversity training, portfolio development and assessment, conflict management, team building, and first aid. At two sites, administrators told us the importance of teachers understanding students' differing learning styles. To address how teachers can better relate classroom activities to differing student learning styles, a for-credit class entitled "Identification and Facilitation of the Learner as an Individual" has been offered for teachers at one site. The administrator at this site noted,

> It is important that teachers understand that students learn in different ways and that material is presented in different ways, whether it's visual, tactual, auditory, experiential, or cooperative. You can put all those handles in terms of different types of instruction so that (a) they can understand that these different learning modalities exist, and (b) they use computer-aided instruction [tools] for portfolios and the assessment of students. So . . . first [the teachers] identify the concepts and they identify ways to identify students' learning styles; then we give them some instructional tools and ways to assess those different styles.

Participating in Conferences

Participating in conferences was viewed by a number of respondents as being an effective professional development activity. The conferences provided meaningful activities and materials that enabled teachers to conduct successful school-to-work activities. A number of sites reported that they took a team of teachers to conferences to learn how to implement school-to-work activities in their own individual districts. American Vocational Association (AVA) conferences were cited by several vocational educators as being a professional development activity that helped them conduct school-to-work activities. Further, many interviewees noted that they had attended School-to-Work seminars, Tech Prep conferences, and SREB meetings. Teachers reported attending not only educational conferences but business conferences and Expos that related to their fields.

A guidance counselor at one site discussed the many changes that have been implemented at her school which have come about as a result of "staff members going out

of the building and hearing about what other people have to say and looking at other models." She observed "getting outside of our building and participating in the conferences would probably be a very strong way of getting the rest of us to know about school-to-work and what is required." She also told us about the impact that the AVA conference has on their school each year. She states,

> A few of our staff go to AVA every year and when they come back, it's not just [who] they went to AVA. We go through about two or three meetings where different things that have happened at AVA are imparted to the staff. As a result, it's almost as if we all went to AVA.

Summer conference workshops were cited by a number of educators as providing motivational support and beneficial materials for school-to-work activities. The first comment below is from a marketing teacher and the second is from a home economics teacher. Both of these teachers were particularly enthusiastic about the positive results of participating in summer conference workshops.

> The summer conference workshops—we attend those regularly. And we meet with other teachers across the state that provide ideas on what works for them and we just find out general information that helps us in the whole process [school-to-work]. It's the best way to get motivation before school starts; it's really an uplift. Sharing with other teachers—it's just a real stimulating type thing when you can go and hear about what others are doing and you get excited. You get new ideas; it's just a rejuvenation.

> I always attend the vocational summer workshop because I feel they have speakers and activities that keep up-to-date with what's going on. I've never missed one of those since I've been a home economics teacher.

A business teacher noted that she attended conferences and workshops to keep up with current trends. She further stated that at conferences she obtained "free materials" that she could copy and use in her classroom. At one conference she received "free accounts on about five different telecommunications, free newsletters, and got ideas and handouts for the kids."

A school-to-work coordinator at another site stated that teachers come back from the conferences with "so many materials." She said, "seeing the vendors and being able to pick something up and practice with it is so much better than seeing it in a catalog." She further noted that an additional benefit of conferences was having the personal contact with vendors. She felt this personal contact made teachers feel much more comfortable in calling

the vendors to place an order or ask for materials. She noted, "we have vendors because of [conferences] that stop in and visit a particular teacher." Networking opportunities at conferences were also viewed as being "extraordinarily important."

A manufacturing and welding instructor at one site felt that conferences and conventions helped to keep him up-to-date on current technology as well as provided a way to receive current literature. Students benefit from this activity in that he is able to bring the knowledge he learns at the conferences back to the classroom. This teacher also involved students by taking them to conferences whenever possible to view firsthand the latest equipment. He noted,

> I think conventions and shows keep me very up-to-date. Even if I bought new textbooks every year, textbooks are going to be a year old. The books that we have in our media center are five to ten years old or probably older than they should be. But we have to set priorities. Which is the most important? A textbook, a videotape, or whatever. So this [conventions] allows me to gather catalogs, information, the knowledge of new products that I might not be aware of otherwise. It also gives me a lot of insight in all of these professional societies [and their publications]. I think right now I am getting at least 20 publications a month all free. [This information] just kind of fills me up to overflowing and I exude it all to the students. Although they are learning on old equipment and old technology, I can say what the new way to do this is, and I can relate it to what they are doing. Twice I have taken my top students with me to these conferences. All the way back they are talking. . . "did you see so and so, wasn't it great about such and such a thing." This really made an impression on them.

In addition to workshops and seminars provided at the district, state, and national level, one vocational technical center we visited conducted its own school-to-work summer workshop for area schools. The school-to-work coordinator at this site found that the workshop was "a lot of work but was well received and worth the effort":

> . . . When we conducted our own [workshop] we had to prepare and we had to teach others and we conducted it and we supervised and we were the leaders. It was a lot of work but it was very worthwhile and it was well-received by our schools.

The principal at this site reported on the impact of this districtwide workshop, noting that the workshop served as a planning time for area schools to work together to coordinate school-to-work activities:

> We had some tasks that we worked through as far as where we are right now, where we want to be, and how we'll get there. We spent quite a bit of

> time talking about things we need to do differently in our classrooms and how we might integrate the different areas and what types of activities we needed to do with students in order to promote their ability to transition into the workplace whether it's directly after high school or after future training. We talked about what we needed to do at the elementary level to start students as far as learning about careers that are available. We talked about classes that we might offer in our curriculum that would be applied classes. We talked about partnerships that we might form with the business community. Then we started trying to select things that we could do this year; things that we could do later down the line. So that we actually were constructing an action plan of what we could do. There were other teams there from schools all over the state and we all shared what we were already doing that had application to school-to-work and we got some really good ideas. There was a lot of sharing that went on and we had people from colleges, . . . people from businesses, and people from the vo-tech that shared with us. It helped people increase their commitment to the whole school-to-work concept. I think the key thing was that it gave us a time away from the school to actually come up with some plans of things that we could do. I think that's very important.

A math teacher at one site referred to a CORD workshop he had attended where different ways of teaching math were explored. Through this workshop, he learned ways to provide students with an applied approach to math concepts:

> We're not looking for new math to teach, it's just a new way to teach things so they're much more relevant. The kids aren't just memorizing, they're learning. And that's what I've been trying to achieve for several years, to get more hands-on with the kids.

The guidance counselor at this site discussed further benefits of the CORD workshop. She noted,

> They [the teachers who attended the workshop] brought the information that they learned from the conference—their excitement about things that they can do working with other teachers, and working with other students—because they did a lot of group projects where they worked together: math, English, science, and technology. In our staff development, they shared together with each other.

A vice-principal at one site was enthusiastic about a Tech Prep conference he had attended that totally changed his attitude toward education and school-to-work. He commented,

> My introduction to Tech Prep was through our department chair. There was a Tech Prep conference about three years ago; it was a statewide conference and he said "I think you need to go to this conference." I said "I know nothing about technology. I don't even know what Tech Prep is." He said

> "that is why you should go." And I said "oh, another conference." And I went and it totally changed my life. It totally changed the way I viewed education. I was mainly interested in college prep and I find this amazing now that most students don't go to a four-year institution and the vast majority are just floundering and have no focus. But I listened to this man talk about how they instituted school-to-work and career clusters from kindergarten through twelfth. And was like unbelievable. Those keynote speakers are so exciting and they lit a fire at the conference. Everybody was talking. All of those administrators and counselors, it was from administrators and counselors, the people who have the voice to do it normally. And when we left we said we are going to go back to our buildings and we are going to change how we do business. I came back and talked to my principal and I said, "I wish you could have gone to this conference; we have got to change how we do things here." So what I am saying is that we have had a dozen opportunities to go to Tech Prep conferences. We've even went to the national ones and had opportunity for training. We are so enthusiastic about Tech Prep and School-to-Work and people can see that so they help us. We have had a lot of staff development around Tech Prep, a lot of opportunities to go out into the community and to national, and state, and local Tech Prep conferences, seminars, and training. We have sent a number of teachers to the regional conferences. The principal will send people from virtually every department. These conferences are so well-organized and have such excellent speakers, and they present programs that are really exciting, and this to me excites us when we see programs that work. Almost every conference or seminar will have different people represent it and that really turns the building around fast. You can't just send the counselors, or the Tech Prep department, or the administrators. You have to get the teachers down there as well. And she [the principal] has wisely sent virtually everyone. Everyone has been to Tech Prep here. I have been to a lot of conferences, but there is something about these Tech Prep conferences that lights a fire. It just lights—everybody gets excited and interested. We make presentations and the rest of the faculty is interested and we present this program or ideas and concepts that really work and this excites the staff a lot. This is how we have been able to quickly implement [school-to-work programs]. We have sent key people to these conferences. The language arts department is here. You know language arts is the toughest nut to crack. I know, I am a language arts teacher and so it is important to get them on board.

A language arts teacher at this site commented on the insight he had gained by attending the Tech Prep conferences. He further emphasized that the conferences provided the fuel to keep enthusiasm high for school-to-work activities:

> It was an excellent experience. I realized what was going on in the field now. Of course, there are always more workshops than you can possibly attend. But the ones I went to were really very good and gave me good insight. I then came back and shared them with the rest of the staff. I think the most interesting thing, for me, was the computer internetting, or the availability, I should say, of [college-level] courses that are available to students . . . . Also, just seeing what people are doing with portfolios and

> that they are working in the same way as we are. It [the conference] fuels our energy toward establishing good school-to-work practices because every time we go to these staff development activities or conferences, it is very enriching. It fuels us up and keeps our energy at momentum so that we can continue with our vision of what we want to do.

A guidance counselor said that the school-to-work conferences "expand your horizons," and a business teacher said, "these conferences are the kinds of things that make you want to bother to learn the nitty gritty . . . it is really energizing."

A technical division chair felt that conferences were good as they provided networking opportunities to learn about successful school-to-work models and strategies:

> Probably the education conferences would seem to me to be the best school-to-work professional development opportunities. They provide networking . . . because you find someone has found a successful method or success strategy. It may not fit exactly with what you are doing, but it gives you a contact person for further interaction for possible solutions that fit your local workforce needs and your local system. Everybody wants to know what works and what doesn't and you can learn from other people and you are going to find a successful way of involving your own community quicker.

Educators noted that they received information about workshops, seminars, and conferences from a variety of sources. The sources indicated were flyers in the mail, notices from their program director, annual statewide conferences in various vocational disciplines, and notices in trade literature. Educators at every site indicated that tremendous professional development benefits are gained from attending conferences that enhance their school-to-work programs.

Learning Through Students

Teachers indicated that their professional development often came through learning from students. They noted that students in their classrooms worked in various businesses and industries in the community. Teachers found that these students brought knowledge of the workplace into the classroom which helped other students in their school-to-work transition. Students also gain technological knowledge through workplace experiences, from parents, or through exposure to home computers. Teachers noted that often students have had experiences they themselves "may not have been exposed to." These shared

student experiences were viewed by teachers as learning experiences and part of their professional development.

The following responses are from teachers who said that learning through students' knowledge of the workplace and technical expertise contributed to their professional development. The first response is from a science teacher and the second is from a business teacher:

> By working there in every single plant in this county, the students learn that they must show up for work and the importance of their being there. We have an attendance policy and if you miss so many days you fail the class just like when you miss so many days of work you're fired.
>
> Because the way that technology changes, especially in my classes, I've got to have new ideas, new things for the kids to do. A lot of them have 586 processors at home and they have the opportunity to share that with the class. I have two kids right now that are instructing the other kids on how to use "Sim City."

One school-to-work director told us how learning through students had impacted the classroom management at his site:

> . . . a wave of impact comes in when students start going out in the business community and coming back. All of a sudden we get back these wonderful students that we didn't have before and the classroom management intensity decreases because we're no longer having to be the constant motivator of these kids. Now we take that energy and put it into the more focused instruction. We're now more aware of what is required and we're spending less time on management and more time on focused instruction with connecting activities and everything involved and the whole thing just snowballs.

Learning Through Student Organizations

In addition to learning through students, interviewees further noted that involvement with student organizations provided professional development activities for teachers. Student organizations not only help students develop skills, including communication skills and leadership skills, needed in the workplace; but also provide teachers with opportunities to develop. Interviewees mentioned a number of benefits gained by vocational teachers as they work with vocational student organizations that also have implications for teachers of academic subjects. Among those professional development

opportunities mentioned were interacting with other teachers at conferences, travel opportunities, development of leadership skills, and information made available to them through student organizations that also have implications for teachers of academic subjects. The following comments are from vocational educators who viewed their involvement with vocational student organizations as professional development activities.

A business teacher told us that as an advisor of a student organization she was able to "travel to different states with students" so they could participate in Future Business Leaders of America competitions. She viewed this opportunity to travel to "regional, state, and national competitions" and learning at the competitions what other schools were doing as a professional development activity for her and an activity that helps students make a more successful transition to the workplace.

A health occupations teacher, likewise, felt that her participation as advisor of a student organization provides positive professional development activities for her, as well as providing learning opportunities for students:

> I'm involved in my student organization as an advisor and I have student officers and so Health Occupations Students of America serves as a professional development activity. In order to keep our students current on changes in healthcare and in industry, the organization provides a lot of information. So the student organization provides a lot.

In addition to serving as advisor of a local student organization, the autobody teacher at one site served on the national board of his student organization. He indicated that serving in these capacities provided him with opportunities to interact with other educators as well as with business representatives in preparing for competitions. He viewed these opportunities as positive professional development activities. He told us about his position on the national advisory board and further indicated the benefits to students who were members of student organizations:

> [I am] a program coordinator for VICA [Vocational Industrial Clubs of America], and also serve on the national education team, so I end up going to the national competitions. I've served in meetings where we developed the guidelines and as a national advisory person, we generally set up the parameters of the competition, make sure the suppliers are there, determine the materials that are needed, and provide judges for the competitions and all of those kinds of things.

> I think a lot of times what happens is students don't have confidence; they don't have enough confidence in what they're able to do. In the VICA organization, they are able to perform [work-related] tasks and they are usually well-pleased with their performance and they find out they can do these things; they're successful at something. The prestige and the self-esteem the student develops are really quite helpful in the school-to-work transition process.

Obtaining Materials and Equipment from the Workplace

Educators we interviewed noted that a benefit of attending conferences was the "free materials" obtained from vendors. However, on a larger scale and on an ongoing basis, educators indicated that their local communities provided the greatest source for obtaining materials and equipment. Teachers responded that through their contacts with business, industry, and the community; the partnerships that have been developed in their school districts; and through their advisory board members they frequently obtain useful materials and equipment. These ongoing contacts with the business community provide professional opportunities for educators.

A districtwide school-to-work coordinator was very enthusiastic about the support that her school sites have received from the business community. She said, "one of the things that I have learned in this position is that schools, the small rural schools, have a hard time calling up business and industry. Business and industry will do a lot for these schools if they just get the call." To help teachers in the rural areas of the district form partnerships with business and industry, the district had sponsored team building workshops and helped these schools develop advisory councils.

A government teacher reported that he picked up newspapers every week from a local business to be used for news items in his classroom. And a business teacher reported that she had obtained a month's free use of a software package for her classroom as follows:

> . . . I've got a brand new database package that is coming to me right now. A student brought in the brochure and I talked to the manager and he gave me a month's use free for 22 kids and then I can decide to purchase.

An administrator at one site told us that business partners donated materials to his school. He noted,

> For example, two of our vocational classes are partners with Auto Zone and they donate certain things to our school as well as have students out in their industry.

Business and community representatives at each site indicated their willingness to share training, materials, and equipment with local schools. Many teachers indicated that they were "not afraid" to present the equipment needs of their local school to the community, and almost overwhelmingly the community met those needs.

Reading in the Teaching Area

Reading in the teaching area, literature and trade journals, was a method reported by interviewees for keeping current in their teaching areas and learning of the latest technological developments. As discussed earlier, educators reported that one benefit of attending conferences was receiving catalogs, brochures, and literature about current trends in their respective fields as well as receiving free materials that they could use in their classroom. The following responses, the first by a coordinator and the second by a graphics art teacher, support this method of staying abreast of what's going on in the field:

> I don't think we have anybody who is not really working hard to do a good job. In every vocational program, our teachers are working hard at keeping themselves up-to-date whether by reading, by visiting the workplace, or by taking classes.

> Basically reading keeps me current with what is going on in the field. I read books that keep me focused and up-to-date . . . so I don't get sloppy and off-track.

An autobody instructor commented that when literature and trade journals were not available, it was a "commitment" on the part of the teachers to seek out the materials. A home economics teacher said that she gained ideas and information for use in her classroom through journals and magazines. And an administrator stated that he kept his staff abreast of the latest research. He said,

> . . . There's hardly a day that goes by without the staff receiving something from me, some article, a new piece of research, getting involved with state organizations, those are the informal, ongoing types of professional development. Anytime I get any literature on school-to-work, I make copies and put in all their mailboxes. We inundate them with information.

A coordinator at another site said she started a "professional development library" so teachers could have access to the "research that is out there." She said,

> it's almost like whatever I get I want to share it, and I want to share it quickly. This is something I believe in. I subscribe to all the professional journals. I have so many now that I can't even read them all sometimes.

Participating in School-Sponsored Professional Development Activities

Staff development opportunities provided by the local school system were viewed by administrators, teachers, and people in the workplace alike as an essential ingredient in educators' professional development that enabled them to successfully conduct school-to-work activities. Interviewees at each site reported that numerous inservice education activities are offered before school starts as well as throughout the school year that contribute to teachers being better prepared to assist students in their school-to-work efforts. Among the activities mentioned were job shadowing; inservice education days with numerous workshops, including professional consultants brought to the school to address various topics from diversity training to gender equity to reading; plant tours; school-to-work seminars; and a host of other professional development opportunities. Comments supporting this theme are classified under two subthemes: Professional Development Activities in the Schools and Professional Development Activities in the Workplace.

Professional Development Activities in the Schools

A school-to-work coordinator at one site observed that numerous professional development activities had been offered at his site. He said, "we'll have workshops on anything—from conflict resolution, to stress management, to curriculum development, to working with at-risk students." The following quotes from this school-to-work coordinator and a science teacher stress the importance of participating in in-school professional development:

> This summer, a lot of our workshops are going to be school-to-work activities; and the school provides staff development here on campus for us. We are very fortunate in that we have a full-time staff member who has been provided that is a school-to-work person. She kind of guides and leads us.

> We have staff development days every year and I get a tremendous amount of knowledge and appreciation for the people that I work with.

The following comments from an English teacher are representative of educator responses regarding the variety of school-to-work workshops and seminars held before the beginning of the school year:

> We learned about school-to-work philosophies: what it is, how you integrate these things in your classroom, how you make learning accessible to all kids... how you link it to life for the kids, [and] how you get the kids to buy into education basically.
>
> The second day we broke into groups. There were different seminars that we went to, and we were able to choose which ones we wanted to attend. The sessions were an hour or an hour and a half. I did one on SCANS, actually SCANS related to literature. I did one on starting portfolios—a career portfolio, starting a résumé, and keeping it up-to-date all through the high school years. I went to one on cooperative learning and one on making learning accessible to kids and showing them how to apply it to life. He was hilarious; he came in dressed like a policeman. He was showing the difference of being a classroom cop (read and don't say a word) to being totally relaxed—you know that when you teach, your classroom isn't going to be organized and it's not going to be quiet—you are going to have a hundred activities going on at once—and showing that was okay, and showing that's what makes the kids learn—movement and real life experiences.
>
> Also, that gave us a lot of contact with a lot of other businesses because they brought people in and those people shared their criteria for work and what they're looking for in their workers. A lot more research as far as what are the top jobs and all those kinds of things just to make us more aware as teachers where we should be focusing our students, what are some things they might be interested in.

A science teacher's appreciation of school-to-work was enhanced as a result of two inservice activities:

> In November, we had a conference with all the pyramid groups, the middle school, and the high schools. We came into a conference and had the businesspeople in the community come and talk to the teachers about what they expected the kids to know. The teachers then [had an opportunity] to give feedback as to what they were doing. The businesspeople came back with ways to improve that classroom training. We also had the February inservice where [the teachers] actually shadowed people in business—all the teachers.

A community representative commented that school-to-work initiatives also need to be a part of teacher education at the university level. This person's comment reflects the links that are needed between university teacher preparation and professional development in the schools:

> Just like we heard today on this CORD program that is really applied learning. You're just touching a tip of the iceberg, and you're just touching math, science, and biology. Those kinds of teachers need to be across the board. I think there are two types of professional development that have to be looked at. One, of course, is that professional development continuing lifelong learning for the teacher in the school and school district, and then there is also teacher training at the university level. You have got to be able to take this [concept of school-to-work] to the universities, to the colleges where we are teaching the teachers of tomorrow, and how can you integrate this [into the classroom]. That's one of the barriers where it's been awfully hard to break.

Educators from every site we visited discussed workshops and seminars they had attended regarding the importance of integrating vocational and academic education. A home economics teacher told us about the efforts of her vocational director:

> Some of our inservices that we've had here at the school have been involving the applied learning. Plus, our director has been on the forefront forever on the subject and she really has taken the vocational teachers and given us lots of training through the years that has really helped us to integrate the academic and vocational education. I think that probably her involvement was the first thing that got me started and interested in things like school-to-work.
>
> We also have academic coordinators. One of the sessions I went to was done by a math coordinator for the district. She actually put on a seminar to help us in integrating math concepts into our different classes. We had an English session and one on science that taught us how to incorporate all the different academic areas into our curriculum.

A technology teacher told us about his participation in a continuous quality improvement workshop:

> One of the other things we have really been involved in here, that has really helped me, is a continuous quality improvement process. Our institution is trying to become a quality organization and we have put . . . almost all of our faculty, all our staff, and all of our administrators through a continuous quality training for about 36 hours of training. There are a lot of connections from that to what we do in the classroom, thinking about having a quality environment in your classroom, giving your students a lot of input and ways to help. There was a group of faculty that went through the initial training and trained all the other faculty. I've used a lot of the stuff that we've gotten through our training and supplemented the textbook.
>
> The quality initiative has changed my attitude. [I am now] thinking differently about the ways I try to do things in my class. I think of my student as being more of my customer. . . . I tell [the students] what to do and they do it and don't ask me why. I've done a lot of things, like in the quality class, I let the students design the class. I say this is the class, this is

> the book, and let's figure out what it is that you think is the most important and then we will talk about that. I've done things in teams and team building. I've taught a business math class two spring semesters in a row and I did the whole class in teams. And I got most of that from the quality stuff and going to some of these Tech Prep conferences and learning about cooperative learning. That's been to me the most refreshing thing; it made me look at things differently. It made me get out of the old rut I was in.

A dean of Career and Technical Education mentioned that the school-to-work professional development activities have had an impact on the personnel in his area. He noted,

> I think the major impact is to get teachers to think outside the box; to get them to know that education is going to have to go through a transformation because our economy, our business and industry clients are all going through a transformation. We can't continue to do things the way we've been doing them, and I think that's what this whole initiative is about. [T]hrow out some ideas that get teachers to think about how they're going to have to change. As a result of the workshops, the teachers are more interested in team teaching. They're much more receptive to technology and to computer-assisted instruction and distance learning. They're talking about ways we can eliminate departmental barriers. They're not focusing as much on traditional scheduling as they used to. I think those are all indications that the teachers realize things have to change.

A Tech Prep coordinator stated that her biggest problem in implementing the workshops and conferences has been "time constraints." She said time constraints and finding substitute teachers had been a problem. A guidance counselor at another site indicated that "you have to have leadership from the top. That principal better think that linking business and education is important or it's not going to work, and teachers will sense it." Despite problems such as these, the consensus among interviewees was summed up by a principal who stated that participating in school-organized professional development activities has "increased awareness of what students need to be able to go to work, [which has] contributed significantly to the success [of] school-to-work teacher activities." A Tech Prep coordinator at one site summed up why he participates in inservice activities in much the same way as other educators: "I was motivated [to attend] because I wanted to grow professionally."

Professional Development Activities in the Workplace

Workplace tour and workshop opportunities were often provided to educators as a part of school-to-work professional development. An administrator commented that his site offered opportunities to all teachers who wished to participate. He noted,

> They tour the businesses and industries and basically get information as to what businesspeople think about how we need to prepare our students. What types of things do they feel are weaknesses? What do we need to do better in the classroom to prepare students to go out and be viable in that particular industry? So what we try to do with shadowing is have our teachers learn what types of people industry is still looking for so that we can work to prepare our students in those areas. Teachers in each discipline have their own agenda. We have social studies teachers that would want to know, "why would a student need social studies to work at a particular industry?" or a math or English teacher that would want to know how math or English is used on the job. Generally teachers are trying to find out "How can we tie what we do in the classroom to what is needed in industry and to show our students how it is relevant?"

A Tech Prep coordinator expressed the importance of educators getting out into the workplace and learning what is going on before they are willing to change:

> I'm a big believer that the first of any change is to get the teachers out to the business site, and we've been very successful in that. We started five years ago with a pilot of just ten teachers, and not just vocational teachers but academic and vocational teachers going together, postsecondary and secondary teachers going together. We're a big believer in the theory of mixing, you know having a mix there. From that [beginning] we had, we had something like 47 the second year and 113 teachers the third year. And we did nothing to advertise it differently; they just were knocking on our door. These tours consist of seeing the facility and then a roundtable discussion with business and industry people about the skills and competencies that the workers need. Usually the work site has a luncheon for them and some of the workers from the floor plus management come in and sit down and talk. And from that there is usually linkages anywhere from a student being able to go to that work site to a teacher coming and doing more of a structured internship to the sharing of videos, or asking a business partner to come and be a speaker. So lots of things spin off from those informal talks. We also have a program called Pathway Partners. We pair up a secondary technical instructor with a postsecondary technical instructor and that secondary instructor comes to the college and spends a day and sometimes brings a student with [him or her] and spends a day with one of our programs here at the college.
>
> We've had a team building workshop where we've asked each secondary school and the college here to send an academic teacher, a vocational teacher, a guidance counselor, an administrator, and also a business or industry partner. So we have each school send a team of four and this team goes through a three-day workshop where they learn each other's strengths

> and weaknesses and how to get along—team building skills. From them, we hope that schools will be a little less hesitant about teaming up with business and industry.

A business teacher spoke of business tours provided by her school division as one of the most motivational professional development activities in which she had engaged:

> Because I am a business teacher, any chance I get to go into the business world I just do. I thought it was the most motivating professional development tool that I have experienced in a long time. I was able to tour different types of businesses and a manufacturing plant. I don't think we're manufacturing oriented and that was good for me. I was able to tour medical facilities; I was able to tour Blue Cross/Blue Shield and see their training program for their employees. I just think that overall it was the most motivating for me.
>
> I took back a lot of information to my students. What the different employers look for as far as hiring, i.e., what skills? Did they go through a job service to hire or take applications off the street? I would relate to the students what was related to me. As for the 150 applications, maybe only 20 were even considered because of the way they were written or whatever. I took back those things to my students because they were immediate, they were local, they were real. I also brought back the different types of jobs I saw employees doing. If you are hired on there in this position, then you are going to sit in front of a terminal eight hours a day answering directory assistance calls. If this is the kind of thing that you can see yourself doing, then these are the skills and this is the salary range and those kinds of things. I thought that was a pretty interesting thing to relate to the kids.

When asked why teachers participate in these activities, guidance counselors from two sites told us,

> They want to learn more about the world of work and update their skills so they can integrate employers' requirements into their curriculum rather than just having students write an essay on giraffes or something like that. They can explore occupations and interview people, making their classrooms more alive and relevant. They can pass this on to the students.
>
> It provides them with an evaluation tool for what they are teaching in the classroom. Is instruction relevant to the world of work for their own discipline? A self-assessment, "What I'm teaching, is it relevant to the real world?" The end result would be curriculum enhancements to meet the needs of the community. Is the end result of this particular class or program going to prepare students for work in this career area.

An administrator at a technical college told us about professional development activities offered to teachers at his institution and how these activities are funded:

> Well, we offer sabbaticals here at our college; we offer travel budgets to send teachers away to conferences and workshops and those kinds of things. We have paid stipends through the Tech Prep grant to get our faculty through quality training, continuous process improvement training, and to get our faculty familiar with the changes taking place in the workplace and the educational reform movement that's moving across the country. We use a number of grant funds in addition to operation budgets; we use Carl Perkins funds to help send our occupational faculty away to technical training, vendor training, and those kinds of things. There's a lot more to do. If you read Demming or you read Tom Peters, or you read other authors, they're all saying that the Germans, the Japanese, the Swiss, [and] the British are all spending up to five percent of their annual operating budget on staff development, making their people better and we're not spending that yet. We're doing a lot, but we're spending about three percent of our operating budget on staff development. Some of our secondary schools are spending only one half of one percent.

When asked how these inservice professional development activities contribute to student success, a coordinator noted that the "faculty are more informed and are in a better position to inform the students." A health occupations teacher responded,

> I've come back to my classroom with changes that I might need to make in my curriculum as far as certain information skills that I feel I want my students to have before they go out into the workplace. I think that everybody that does a good job takes ownership in their program. When I take ownership in a program, I want it to be the best it can be and that means upgrading my skills to the level that industry wants and passing that on to the kids and it's fun. I've made some changes in my curriculum, and that would probably be one of the most important things.

Business representatives are often part of these inservice professional development activities. One business representative reported,

> I know that we have worked together on school improvement committees at all levels and so we have a joint attack on problems, You know, business and teachers working together on problems from attendance to how can we put together a career center and that kind of thing. Of course, we've had workshops. And of course [there is] the VIP (Vocational Instructional Practicum) program for teachers where they can earn a small sum of money and go out into the business and industry to spend up to 20 days to find out what is going on there and to upgrade their skills so they can come back and apply them in the classroom.

Another business representative said his company participated in staff development training at the schools. He noted, "everything we do is based on private sector values—

accountability, punctuality, we value dress very highly. We speak in terms of what's going to work in the world of work rather that what's going to succeed in the school."

Interacting with Workplace Representatives

Interacting with workplace representatives emerged as a meaningful professional development theme. Educators spoke of both formal and informal contacts with the business and industry community. Interaction ranged from formal activities including partnerships and advisory committee groups, and informal interactions including work groups and brainstorming. A school board member at one site reported that each school in his district has a business partner. He noted, "the businesspeople come into the schools and the teachers and the students go out to the business."

From school and workplace partnerships, the business community and educators learned that they often view issues from differing viewpoints. A business representative told us,

> They [teachers] watch business representatives in a committee meeting who think about things in a totally different way than an academic thinks about things. They're sitting in the meeting and pick up that objective-driven thinking process. I know it's a learning experience for us which means it has to be the other way, too.

A school-to-work coordinator described a "brainstorming session" that included the education committee of the Chamber of Commerce and educators. The purpose of the session was to discuss "What things can we do to better forge a link with industry?" She noted that much useful information that served as the foundation for their school-to-work program was "gleaned from that session."

A principal at a rural site spoke about the camaraderie between school personnel and the business community in this way:

> We know who our businesspeople are and, in most cases, certainly the larger business folks, we all know each other by name, go [to] the same churches, restaurants, and grocery stores. Therefore, it isn't difficult for us to access our business community. We also have a very strong business education partnership based out of our Chamber of Commerce.

A community representative at one site attributed the success of school-to-work activities to "the educational sector and the business sector being able to sit down together." He reported that this open communication breaks down barriers which he said "contributes to being able to work together to accomplish [school-to-work] things."

A drafting teacher at one high school reported that serving on the advisory committee at the local community college had increased his contacts with the business community. He indicated that interacting with business is critical for student success in his school-to-work initiatives:

> I was put on the advisory committee at the community college where I made contacts [with] businesspeople from small businesses and large businesses. As part of the advisory committee, I had the opportunity to go to a different part of the state to check out their computers because they are different from ours. Next week, I'll send ten kids during the school day over for a drafting contest at the community college. These students will have the opportunity to make contacts with the community college teachers and with businesspeople. Personal contact is everything.

Not all interaction teachers had with business and industry were school initiated. As indicated by a business representative, the business partnerships in his district sponsor a banquet each year for "outstanding teachers." He noted, "we as businesspeople pay for that and attend it and teachers throughout the school are honored. It's not a school function—it's kind of indirect."

At another site the school-to-work partnership with local high schools has been initiated by a local business. Through this partnership, students are offered employment opportunities, as well as being able to take courses for college training at the business facility. The business site has actively involved teachers in this school-to-work initiative by offering orientation sessions and tours to inform teachers of their employment procedures. The coordinator at this site noted that he has meetings with local teachers at least two or three times a year. He believes that keeping communication lines open between the school and the business is vital to the success of the business partnership. To emphasize this, he declares, "[teachers] are free to call me and then we try to resolve whatever the issues might be."

Participating in Professional Organizations

Participating in professional organizations is closely linked with the attending conferences theme that was addressed earlier. Educators and workplace and community representatives at each site indicated that educators involved with successful school-to-work programs were also actively involved in professional organizations related to their teaching fields. Vocational teachers, in particular, cited involvement in professional organizations as an essential professional development activity.

A culinary arts teacher told us that she was a student member of her professional organization when she was in college then became a professional member after she became a teacher. She said, "the interaction between peers is just wonderful." She views her participation in the American Culinary Federation as a learning experience. She stated, "you learn the standards, the curriculum, where the market and industry are headed, and the trends that are coming about."

A director of one site told us, "I don't know if I would have the information to describe to you what teachers are in professional associations within their disciplines. Each of our teachers is involved with [his or her] respective professional association."

A law enforcement teacher at a technical center discussed the implementation of a statewide professional association. He commented, "we just started an organization so that we could have interaction and share ideas and information from our programs because they're all quite different." This sharing of information was viewed as "an interesting sharing time." This teacher emphasized a further benefit of his involvement in professional organizations as an opportunity to obtain guest speakers for his law enforcement classes.

An early childhood teacher noted that interaction with peers in her professional organization at the local level contributed to student success. She stated,

> [Through the] local organization, I've met more people that way in the community who are involved in daycare. Also, some of my students, and graduates, are placed with some of these people. We also have workshops locally and I can involve my students in these activities. . . . It definitely helps to be involved with the people [with whom] you want to place your students.

A science teacher told us that her greatest professional development experience had been serving as "head of the local teachers' association for three years." She noted that this experience involved her with major state political leaders as well as local business representatives, whom she referred to as "major shakers and movers in the community." She further stated, "that experience gave me skills to work directly with businesses and people outside of education."

A community representative was particularly impressed with the involvement of teachers in professional organizations. She emphasized that the information teachers gleaned through their involvement in organizations contributed to student success by teachers "making this information available to students." She felt that "whatever professional organizations teachers are involved with outside of the academic setting is extremely beneficial to school-to-work programs."

Learning Among and from Other Teachers

Teachers at several sites commented that sharing ideas among teachers and information gained from other teachers helped them to structure their own curriculum, gave them fresh ideas, and provided them with personal motivation. As an illustration of this, a school-to-work coordinator at one site noted,

> They're [teachers] listening to other teachers who have tried hard to modify their curriculum. And we're certainly sharing these things. We don't want to have to make teachers re-create the wheel. So sometimes they get inspired just by hearing what's already been done and they think, "I can use that" or "I can take parts of that and use it in my classroom."

A guidance counselor at one site told of a student with extremely high math scores who was failing English. The counselor interacted with the English teacher to focus on the student's needs to prepare for the workplace and graduate on time. The counselor not only helped the student, but found a new friend in the English teacher. She noted,

> It's been a tremendous experience for me just to continually interact with this particular instructor. Because in the process we've learned so much about each other, let alone our perceptions of this kid. And we're best of friends right now. We've got to get teachers to interact more.

A math teacher indicated that integration efforts are a vital part of the school-to-work success at her school. Teachers are working together to produce "well-rounded students." She said, "we're integrating everything. It's not just math: It's math and communications." A guidance counselor at another site also reported that teachers are working together to integrate their curriculum. At her site, the English teachers were taking students to the vocational classes and integrating applied activities from these vocational disciplines into their curriculum. She stated,

> The English teachers and their classes walk down to these shops. They let their students go in and look around and listen to what's being said down there. There are four of them in the English department that love it, and they're great to work with. Once these teachers start talking, a lot of preconceived notions just disappear.

A math and science teacher reported that her school had formed teacher support groups they refer to as "School-to-Work Liaisons." She explained these liaisons as groups of teachers from different disciplines sharing and encouraging each other. She stated,

> Whenever you try something that you haven't tried before, I think you need a support network to help you out and encourage you—especially if you find you try something that doesn't work very well. At these liaison meetings, you kind of get a feel for what the other teachers are trying to do and you can get some good ideas from what other people are doing, too.

The executive director of a large technical center discussed the importance of teachers being knowledgeable about what is going on in all departments of the school if they are to be successful in helping students transition to the workplace. He said, "we can't expect all the teachers to know what all other teachers are doing." To remedy this problem, teachers have periodic meetings to share departmental programs. New teachers at this site also receive mentoring from more experienced teachers. These mentors assist newcomers with any problems that might develop as well as helping them to become familiar with school-to-work programs, school personnel, and school policies.

An assistant principal at one high school spoke about the efforts to break down departmental barriers at his institution. Teachers are working together to integrate curriculum. He indicated that teachers are given tours of other classrooms to see what teachers "in other parts of the building are doing." As a result of these efforts, the assistant principal reported increased instructional continuity:

> That was a spark, and the teachers said to themselves, "I do this in my department and we can take this and work together." Whether it's an English teacher with the business department and coming up with Business English, or the technology department working with the science and math teachers. We began to work as a school and not just a bunch of little parts running around.

A principal at another site reported that one of the most successful professional development activities was teacher roundtable discussions. As part of their inservice activities, teachers are given the opportunity to showcase to other faculty members what is working for them in their classrooms. Opportunities are given at these roundtable discussions for "teachers to listen to teachers." The principal noted that "teachers enjoy not replicating what someone else is doing but taking these ideas and making them better, making them work in their own classrooms."

The Tech Prep coordinator at one site summed up learning from and among teachers in this way:

> You know, once we get in our classroom, we're all too often isolated from each other, so one of our goals has been to try to gather the faculty together. The National Alliance for Restructuring Education very much complements these kinds of activities. [This is] what we're doing, rather than bringing in an expert for a day and having meetings about decisionmaking. What we need is more opportunity to sit down together as fellow professionals and discuss what we are doing, why we're doing it, how we're doing it, and how our efforts could be used to complement the achievement of each other and advance the students' achievement.

IMPLICATIONS FOR PROFESSIONAL DEVELOPMENT PROGRAMS

What does information included in these themes offer for the improvement of teachers' professional development? How can this information assist teachers in working more effectively with school-to-work transition efforts? Even though the 13 themes sometimes overlap each other, their distinctiveness can serve as focal points for teacher professional development. For example, many teachers fail to recognize how much they can learn when their students are involved in workplace experiences. However, when teachers connect students with the workplace through telephone communication and never actually go with their students to workplace locations, they miss out on many relevant learning opportunities. Likewise, many teachers take jobs during the summer to

supplement their income. Their employment may or may not offer opportunities to learn more about the world of work. If a summer job does not provide useful workplace learning opportunities, a teacher may want to seek out summer employment that offers greater potential to learn. In effect, many of the activities contained in the professional development themes are within teachers' reach. Others may require that schools offer teachers incentives to learn. Still others may dictate that new policies be initiated to ensure teachers have ample opportunities to actively participate in learning about school-to-work transition.

Teachers as Learners

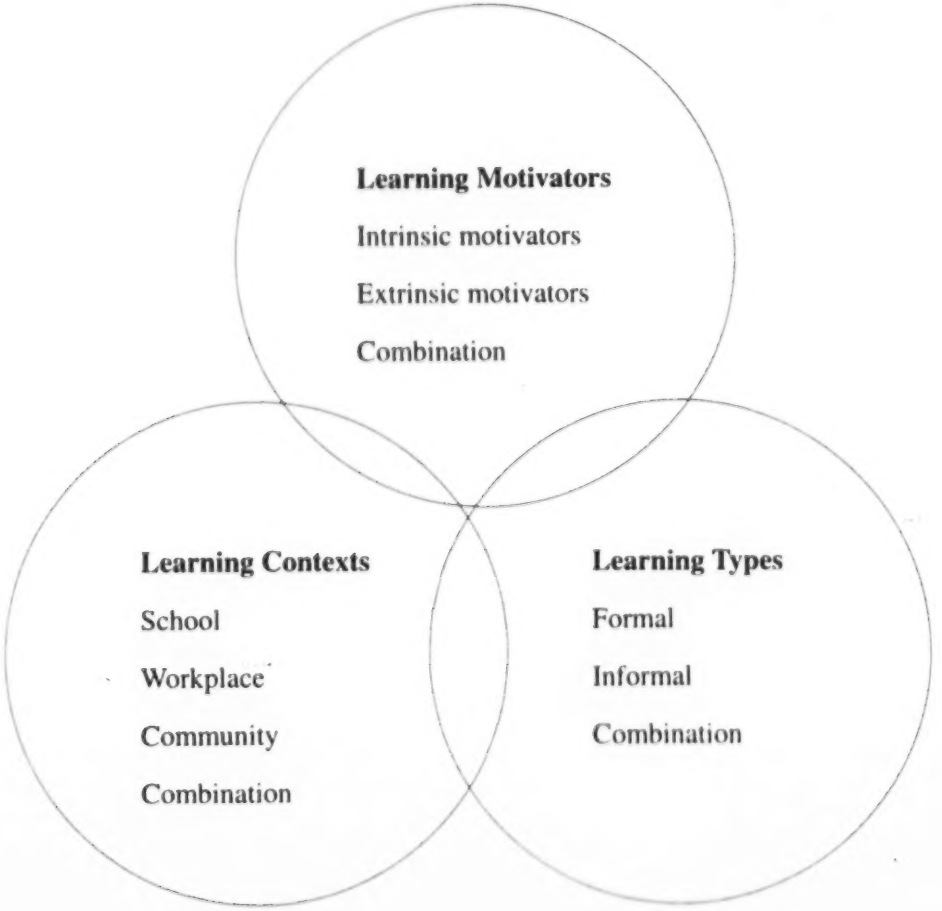
A meaningful way to organize teacher professional development involves focusing on teacher learning. Teachers who learn about school-to-work transition may learn in different ways. Additionally, their learning may occur in different contexts. And finally, teachers may be encouraged to learn through the use of different motivators. These three aspects of learning are evidenced in the many different professional development experiences described in the different themes. Figure 1 reflects the ways these three aspects of teacher learning for professional development relate to each other. First, teachers can learn by informal means, formal means, or a combination of the two. An example of combining both informal and formal learning would be a teacher who learns about the workplace through informal contact and interaction with several businesses; then, through these informal contacts, the teacher is invited to participate in a formal employee total quality management training program run by one of the businesses.

Second, teacher learning can occur in different contexts, the most common of which are the school, the workplace, the community, and combinations of these. For instance, one teacher may decide to enroll in school-sponsored, school-to-work professional development workshops; whereas another may decide to complete a school-sponsored internship with a local manufacturing firm. A third teacher may choose to do both.

And finally, teachers may be encouraged to develop professionally through the use of intrinsic and extrinsic motivators. Examples of intrinsic motivators include the personal desire to improve oneself and the pride a teacher can feel by being able to help students to learn. Extrinsic motivator examples include accruing professional development and/or

recertification credit for completing a school-to-work workshop or an internship in the workplace. In some cases, both intrinsic and extrinsic motivators contribute to a teacher's decision to become involved in professional development activities. An example of this would be a teacher who decides to participate in a professional development activity because it counts as a course toward the completion of a graduate degree and it helps the teacher become more effective in conducting school-to-work activities. As noted in Figure 1, the three learning considerations are both interrelated and distinctive. Learning motivators, contexts, and types may sometimes be dependent on each other and sometimes independent of each other. This essentially means the process of providing teachers with professional development is more complex and multifaceted than it appears to be at first glance.

Figure 1
Considerations in Teacher Learning for Professional Development



Combining the three considerations in teacher learning for professional development (learning contexts, learning motivators, and learning types) with the professional development framework and stages (needs, focus, delivery, and impact) described in the "Overview" section results in the creation of a useful organizer to employ when considering which teacher professional development approaches to use and when to use them. Each of the professional development stages can serve as a starting point for deciding what might be considered when teachers become involved in professional development for school-to-work transition.

Professional Development Needs

When determining what teachers' professional development needs for school-to-work transition will be, thought must be given to both contexts and potential recipients. Teachers at the sites we visited developed professionally through experiences in school, workplace, and community contexts. In some cases, individual teachers learned and developed in more than one context. Also, some of the teachers at the sites taught academic subjects and some taught vocational subjects. Although we noted that teachers from both groups were involved in professional development for school-to-work transition, academic teachers appeared to have greater involvement with school-related activities whereas vocational teachers had greater involvement in workplace-related activities. This may have been a function of teachers' backgrounds, education, and/or personal experiences as teachers. However, it infers the teacher groups may have somewhat different needs and/or their needs should be met in different ways. Based on information from our interviews and analyses, the following suggestions are provided for determining teachers' professional development needs:

- Differentiate between teachers' professional needs and wants. Supporting both needs and wants can be an expensive proposition, so professional development emphasis should be placed on what teachers actually need to be effective at helping their students transition from school-to-work.

- Assist teachers in understanding what their needs are. Sometimes teachers do not realize what they need to know about school-to-work transition until they spend quality time in the workplace. Other teachers may not recognize that their involvement in the workplace needs to be broadened.

- Let teachers know what they will be encountering in the school-to-work environment. Many professionals, including teachers, are fearful of change. Providing teachers with a vision of what school-to-work transition will be and involving them in shaping that vision can contribute to a smoother change process.

Professional Development Focus

Professional development must reflect what high-quality school-to-work transition should be. In effect, if professional development focuses on teacher school-based learning, teachers will not be prepared to link the school and the workplace. It is, therefore, important for teachers to learn in a wide range of contexts. This is especially important when teachers must learn how to function as professional teams. Within the various professional development themes are a wide variety of experiences, each of which may have just the right focus for some teachers but not for others. The following are suggestions for focusing teachers' professional development activities:

- Professional development content does not stand alone. It must focus on what teachers believe to be their needs and must be available in a meaningful context or contexts.

- When considering the focus of professional development activities, begin with both individual and collective anticipated outcomes for teachers and students and build from there. If activities do not contribute in some way to the achievement of these outcomes, the activities shall be questioned.

- Build context into the professional development focus. If teachers need to develop skills in providing school-to-work transition, it is important for them to experience a wide range of contexts in schools, workplaces, and wherever schools and workplaces are linked.

Professional Development Delivery

The ways professional development experiences are delivered or not delivered can affect teachers' decisions about participation. In effect, delivery is directly linked to teacher learning considerations: learning contexts, learning motivators, and learning types. If

professional development experiences are to succeed, they must be provided in ways that appeal to teachers. The following are suggestions related to professional development delivery:

- Provide a wide range of professional development experiences. Encourage teachers to learn through exposure to different experiences and combinations of experiences so they will have a more comprehensive knowledge and experience base from which to provide school-to-work transition.

- Encourage teachers to participate in professional development by offering a wide range of incentives. Use incentives that appeal to teachers' intrinsic as well as their extrinsic needs.

- Incorporate opportunities for both formal and informal learning into teachers' professional development activities. Teachers should not be turned off to professional development because it does not align with the ways they like to learn.

Professional Development Impact

Ultimately, the impact of teacher professional development must emphasize how well students are helped. In the case of school-to-work transition, the focus of this impact may be encompassed in the statement, "To what extent are students assisted in transitioning from school to work?" Teacher professional development is successful to the extent that it has a positive impact on students' school-to-work transition. Many of the people we interviewed were able to link teacher professional development with meaningful student outcomes. This offers some evidence that educators and others can describe ways that teacher professional development experiences have a positive impact on students. Suggestions for ensuring that professional development impact is incorporated in the development process include the following:

- In addition to documenting what teachers' professional development outcomes should be, it is important to specify what impact this development will have on student outcomes.

- Encourage teachers to document how their professional development experiences have helped them and have had a positive impact on their students.

- Encourage teachers to describe what experiences were less beneficial to them and had less impact on their students. Information about which experiences are not as beneficial and how they may be improved can assist in making professional development more effective.

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APPENDIX A
SUMMARY OF THE STUDY

Information about teacher involvement in school-to-work transition was gathered through community profile studies. The communities participating in the study were selected based on several criteria including (1) the extent and effectiveness of school-to-work linkages and other involvement between schools and employers; (2) the extent to which school- and work-based programs were fully operational and graduating students from these programs; and (3) documentation of the long-term commitment that schools, employers, and the community have made to school-to-work transition. Nominations for sites were sought through mailed requests to state school-to-work coordinators across the United States. In addition, based on information in the literature about ongoing local and state school-to-work activities, persons in several states were contacted to solicit nominations. Using the criteria to examine sites that were nominated, a total of eleven community sites in eleven different states were selected to participate in the study.

At each of the sites, face-to-face interviews were conducted with teachers; administrators and counselors; and business, industry, and community representatives. These individuals were involved in school-based learning, work-based learning, and activities linking school- and work-based learning at the sites. The primary information collection approach was the long interview, with a total of 199 interviews conducted at the sites. Included in the interview protocol were questions and probes designed to identify professional development activities having the greatest positive impact on teachers. The critical-incident technique was used to stimulate interviewees' descriptions of professional development activities that helped teachers to meet students' school-to-work needs. Interviewees were also asked to describe the best school-to-work practices teachers had used, including those where they interfaced effectively with employers. The critical-incident technique was again used to help interviewees focus on describing examples of teachers' best practices.

Interviews and analysis were conducted concurrently to ensure that we were gathering information that would contribute to the study objectives. The analysis centered on identifying meaningful themes and subthemes associated with teachers' professional development activities that were imbedded in the interview text and on determining to what extent common elements existed across sites. To handle the extensive text transcribed from

the interviews, *The Ethnograph* software was used. This software allows for coding, grouping, coding again, and regrouping information according to established and emerging categories, themes, and contexts. A more detailed description of the study procedures may be found in a report prepared by Schmidt, Finch, and Moore (forthcoming).